[torn]
Melitaea sp rare & late [torn] fairly [torn]
singly around brush. Coenonympha 2 specimens only taken, back in canon.
Pamphila rare in barren spots in sand dunes creek bed etc. 1
Big sulphur - rare, flying fast back of town. Colias common.
Pieris, common back of Ensenada. Eudamus. rare - back of Ensenada
always alighting back of Sycamore tree. Thanaos. rather rare. Syneda
1 sp seen & taken in creek bed. also Notodontid on Sycamore. Sphinx
July 8th on vessel 15 miles from Ensenada.

Lepidoptera seen.

Pyrameis cardui & caryae. fairly common. Agraulis sp. " "
Papilio Eurymedon? 1 seen back in canon. P. Philenor fairly
common - Megauostoma 2 or 3 seen. nice & fresh
Deilephila lineata fairly common about sand dunes several
empty chrysalids of same. found in sand dunes.
A sesiidae emerged in Cabin some time in July I did not observe it & consequently it was spoilt. Only 1 good pupa taken, shells very numerous on Sycamores back of town in creek bed.

... martialis
seen on summit of W. island & Eilus rare.
2 noctuid pupae (alive taken on middle isle on
E isle. 1 megamostoma sh. seen on W isle. many
empty noctuid pupae under stones on middle isle

Carrot. Eilus not seen (prob)
D. Giveata. from June Chab. pupa emerged
Oct 20 – 8 ♂ — Oct 19 – 1 Abingdon Cactus
moth emerged 8' & 1800 ft. of lichen moth
from Cowley Mt.

Lepidoptera of the Galapagos Ids.

(to be much corrected)

Sphingidae

This large family is fairly well represented on the islands, nine species having been taken. Of these two are widespread (D. lineata, & P. cingulata) the latter probably the most common species on the Ids; the rest are C.A.? & S.A.? forms. They occur in the larval + imaginal state only during the wet season. Jan.–June. during which time their larvae are quite common. The winter imagines emerge in Dec or Jan. & again from Mar to June. some pupae of the latter brood staying over winter. During the early part of the wet season the convolvulus plants are devoured by P. cingulata larvae of several colours. Likewise (yellow flower tree, & nightshade, are the prey of sphingidae ~~caterpillars~~.

Deilephila lineata taken on Charles, Chatham, & Albemarle Ids (Tagus cove, Villa mil). A couple of imagines taken on Cls at flowers in the afternoon & several & pupae. Larvae on an Euphorbiaceae sh. Fairly common. Specimens are smaller than in the U.S.

, ~~[illegible]~~ Hyperus? sp. found on Indefatigable & Albemarle (Iguana cove & Villa mil. On Indefatigable they inhabit the dreary damp green zone of 600+ ft elev. flying during the evening & late afternoon with remarkable speed. & ~~stopping~~ pausing only now & then to plunge out of sight into a long convolvulus flower & resuming their low fast flight making a

loud humming noise like a bumble bee.
It rains + drizzles a greater part of the —
time up here but does not interfere
with their flight. Found in — .
x not very common. At Iguana cove. it is
green + damp to the sea level + their
food plant a vine. is common every
where. Here the moth flies also during
the day + may sometimes be seen in
large spider webs. the larvae are — —
~~2 forms~~ ~~I dug~~ + the pupae
— — 2 forms I found one under a bit
of soil — A ~~little~~ below Villamil
they are common along the shore + out
being quite a few were seen
flying over the damp sea beach + out a
two a couple of miles out at sea flying
just over the water. At Villamil caught
during the day even in the sunshine at
cotton blossoms + yellow flowers. Here
they did not appear so swift.
Melopsila a single specimen reared from
a grown pale green, bog caterpillar feeding on
azalea taken at night, Chatham, this is
decididly the most elegant sphinx of the
islands no others were taken
P Cingulata The largest + prob commonest here
Not taken on all the isl but probably
occurs even on the low dry ones. some consid—

Galapagos Islands. Sept. 23-05.

Gardner I. (near Hood)

Spent Sept 27-05. on this Is. Here the vegetation is scrubby as on main island though not as thick. Ochsner & King caught a big centepede under a stone. I collected mostly on NE & N slopes of I. Everything extremely dry. All coleoptera collected were taken under the larger stones. larger blk. Ho was the commonest. Judging from the no of beetle elytra (some bright green) it did not appear to be the right season for insect life. Grasshoppers very scarce about 5 seen & three caught. A ~~few~~ single micro-lepidoptera taken on a stone (S.W. end). Scorpions rather scarce spiders fairly common one sp. making a curious nest having a ~~slen~~ broad disk & conical base . At one end of disk a hole is made allowing the exit of the small spiders. One nest ~~te~~ nest had a lot (2 doz or more) of pearl-white eggs in it, the nest is made of mud spun in with silk making it into a kind of more or less flexible parchment. The spider who makes these nests was not discovered it is probably in the collection however. Two specimens of Xylocopa (carpenter bees) taken at flowers & in fresh condition. Large thysanura common under stones, same sp as on Hood I. Diptera (several sp). common.

Beetles under stones larger blk beetle commonest. Rhyncophora in dead wood.

Hood Id.

Dry island, & low, Coleoptera scarce, many elytra of beetles found different from the beetles caught at this season. All taken under stones. Grasshoppers not common. usually on black lava ~~blad~~ flow. Brown katydid in dead wood. One cockroach seen a few crickets under stones.

hibernating. Spiders rather common under rocks, largest spiders found in dead wood. in a nest, probably hibernating. or aestivating. Big centipedes found under dead cactus. but more commonly roaming around over the rocks, very strong & quite quick. Mr Beck found a big centipede in stomachs of two or three buzzards. Diptera common. mosquito larvae observed in a lagoon.

NE pt near sea:

Thysanura. large sp. common.

Lepidoptera - three noctuids taken aboard ship. few micros seen, empty mud spun noctuid cocoons seen under stones. One good pupa under cactus bark others seen in dead branches. too late for lepidoptera

Lepidoptera.

Hood Id. Sept 1905

Evidently not the season for lepidoptera. Three noctuids flew aboard at night. In rotten wood a little cocoon containing a light brown pupa was common but only one good pupa was found the others were hatched. The cocoon ~~was~~ No. made of chips & fibres of ~~wood~~ etc. Hatched. Oct 23-05. Found also beneath slabs of large tree cactus. One or two micros seen. & a few Lycaena seen but not taken, probably the same species as at the other Gal Id & at Ensenada Cerros etc.

Charles Id — Sept 05.

No (1) blue common esp at 400± ft level around heliotrope etc. late for them. No (2) yellow Rather common rarely alighting more common at higher alt. A ♀ was observed laying her eggs singly on the leaves of (thorny large leaved locust) as at St Thomas road No (3) red rather rare & also laying its eggs. rarely alighting No 4 A few specms seen at low elevation hiding in lava flow & flying a distance when startled. A protoparce pupa was found under stones most of them hatched A Eudamus sp seen = no 7 at 1200 ft level. early for these I think. All specms on blk beach ~~road~~ except ~~Eudamus~~ not plentiful at Post office bay. No. 5. not rare higher up, flying during day.

Chatham Id — see opposite p.

Rain (drizzle) every day. 1 protoparce pupa found. No (1) Lycaena common around shrubbery, rather late for them No (2) yellow Common esp. at 1000 ft level on road No (7) common at 1000± ft level very swift. No (3) pyrloun, rather rare. No ( ) ~~this~~: one specm seen. No. 5: a few seen.

Barrington Id. 03-

No ~~5~~ 6. Two good pupae taken under lichens growing on trees.
A few chrysalids of noctuid ~~too~~ (hatched) seen under stones
Hatched no ~~5~~ 6. (pupae) very common in chinks under + in lichens on trees. 2 no 5 seen on wing.

Indefatigable. (Porto de la Aguada) Oct 05.

No. 1 seen in small number at low elev. No 2 One seen at begining of green belt. A few of the Eudamus sp=7. seen Hatched pupae of no 6. common everywhere under lichens
Noctuid taken on ship board.

S Albemarle.

Nos. 1. 2 & 3 observed.

Indefatigable (Academy bay.) Nov 05.

No. 1. common & fresh at higher alt. 600± green zone. 2. one a two seen. No 7 common at begining of green zone. 400±. well in season. Tried sugaring but to no effect. A light brought a few small moths to my light. A small green sphinx larva fell into fruit can, probably from convolvulus plant overhead. Protoparce 5-maculata. fresh & common. easily caught on convolvulus. one seen in early morning. common in evening. A small, black, very swift sphinx observed but it rarely fed on flowers. [Epistor lugubris] One was seen to plunge out of sight in a convolvulus blossom. seen by others also on lower elev. not common. A few small pupa shells seen under stones at sea level. No 5. 1 spec seen at sea level. —

S Seymour Id.

Few noctuids taken at light also micros.

N Ind.

N side dry belt up to at least 1600 feet. at 800 ft. micros numerous taken at light.

(Gardner Id. (Near Charles) Oct 3

Two reddish centipedes under dead cactus. beetles under stones. Handsome grasshoppers seen in small numbers. Centipede found in stomach of mocking bird

Champion Id. Oct 3

Did not go ashore. Same sp of grasshopper as on Gardner Id. One dark centipede taken two small ~~and~~ scorpions seen one spider taken Coleoptera under stones one sp.

Charles Id. (Post office bay) Oct. 05 Post office bay

Grasshoppers of bright colour (Schistocerca) common. found them up to 650 ft: highest point we climbed. Smaller grasshoppers rare. Beetles rare, under stones where a number of larger carabid (Calosoma) elytra were found. Thysanura abundant. Xylocopa plentiful higher up on composite. At 600 ft. two sp of butterflies (Catopsilia eubule) & a moth (noctuid?) were seen. Butterflies. big sulphur not rare. & fulvous butterfly (Agraulis) 4 x 1.75 inches. 2 spec. seen. A Tabanid & two (1 sp) seen on beach, flesh flies (green abdomen) bother one, a few small mosquitos.

Young crickets under stones rather rare. Four dragon flies (1 sp) captured ~~near~~ shore, not very many. Wingless cockroaches rather local. one winged spec seen.

Chatham Id. Wreck Bay. Oct. 1905

Cha. 1 Under stones. low alt. Charles? some beetles.

2 " etc.

3 " " Spiders. high alt on almost vertical webs. | Bugs from Charles lagoon.

4 "

5

6.

Ind. **Indefatigalle Id. (Porto de la Aguada).** E. m. d. J.

1. Big scarabeid at green zone: microscopic beetle on my person. Rhyncophora in a damp decaying root of
f.
B. (~~soft~~ succulent & brittle green leaved bush common on shores. borings in root (exposed).

" 2 Common in lagoon, some in copula ♀♀ observed laying eggs when in copula & when single

" 3 Centipede at 600 ft elev. scorpions under objects in sand dunes & under lava. Orthoptera. hibernating(?) in a dead branch of tree.

" 4. Beetles aquatic under sunken stones in ditch very shallow (corixa) also there as well as larvae & millipede latter probably not aquatic. water half salty.

" 5. Ants at 600 ft level. under stone. Pseudoscorpions in sand dunes. beetles under stones & weeds in sand dunes. Ant lion larva in sand pit.

12

South Albemarle. Nov. 05

Water beetles in water holes up road., I did not go more than two & a half miles inland, & at a low elevation. Near the shore on the lagoon & about two miles up road the large shiny leaved tree with milky smarting juice was common. In the stumps of these were found borers & a few mature coleoptera under the bark. In ~~smaller~~ dead branches of same sp of tree near shore were found larva & imago. & under bark small beetles. Smallest water beetle sp in salt marsh 1/4 mile from shore. Schistocerca rather common on road side. Beetles fairly plentiful under stones. It appeared to be beginning of beetle season. Hunter saw some Agrionidae (odonata)

3

South Albemarle Id.

SA

" 1. Under bark of tree referred to opposite page. early for them.

" 2 Scorpions common under stones. in rotten wood. [inserted above: Orthoptera always under bark or]

" 3 Not rare near ditches 2 miles up road.

" 4 Dytiscidae in water holes in vegetable garden · 1½ miles up

" 5 road. common. Hydrophylidae same locality rarer. Odona-

" 6. ta larvae in pool 1½ miles up road = Villa mil road to Hacienda.

small blk.
Hemiptera in same locality. small beetles + larger brown beneath in brackish pool ½ mile from sea.

" 5 Big beetle dead in pool. small beetle in insect box. Larger ants common under bark of tree + in dead wood. smaller ants nest in ground

" 6 Larvae boring in wood + under bark of tree (described opposite) beetles found in same structure but too early for them

7 Common under stones + bark etc.

Mosquito larvae in salt pool

Indefatigable Id. (acad. bay) Nov-05

Lower zone. dry few insects. Schistocerca extends into green zone. Big cerambycid (6) larva common in green zone none in pupal stage. found in damp rotten logs. two larvae of no 8. 650 ft elev. under bark of rotten limb. in which no 6 was boring in heart of wood.

Academy bay. (Ind.) ← Nov-05.

Low. dry with cacti. & red soil between lava. Schistocerca common beetles very rare, under stones. A few scorpions.

Fossil bay?. NNE Ind. Nov-05.

S. Seymour. (near Indefatigable)

Much like preceding place. low island. few beetles. most common under dead & dying cactus leaves on ground. also under stones. on SW pt of island.

N Indefatigable. Nov-05.

Dry region way up to 1600 ft at least. hardly any coleoptera under stones. a few small sp in twigs. & a cerambycid & an elater taken at light 800 ft. Schistocerca. up to ~~700~~ ft & probably more. an odonata (libellulid) seen about the salt mangrove lagoon on coast. Tabanid very swift. common in lagoon & inserts its piercer between turtle's plates & soft pts & sucks its blood. Also attacks human beings. A cricket common chirping in mangrove swamps during day but none could be taken.

[illegible] (f[illegible]) [illegible] [illegible]. [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible] [illegible] at [illegible] [illegible]
[illegible] gray [illegible]

Chester. I.d. Aug. 16.

a yellow butterflies fairly common & passing [illegible] [illegible] butterflies very common [illegible] on bald summit also passing season, [illegible] fresh, saw [illegible] their food plant near summit. Any butterflies (Lycaena) quite plentiful rather middle season [illegible]. Eudamus rare [illegible]. [illegible], [illegible] [illegible] fresh [illegible] common. also zygaena. noctuid pupae under stones [illegible]. Erebus [illegible] at spring 3 ♀♀ 1 ♂. late for them [illegible] [illegible] hiding in hollows & at roots under stones etc.) (Bean trees) [illegible] [illegible] [illegible] pods [illegible] larva [illegible]. At base of these trees among [illegible] [illegible] [illegible] shells found [illegible] found [illegible] [illegible] dead [illegible]

Getting dry at Chester [illegible] [illegible] [illegible] = Schistocerca [illegible] (Sphinx) [illegible] small [illegible] (common [illegible] to [illegible] feet) [illegible] [illegible] to summit

Aug 28+

found a couple of **Erebus** pupae one on [illegible] hatching. also [illegible] leaves at base of tree several small & one fair sized Erebus larva. Around spring about 1st cover [illegible] [illegible] [illegible] (Lycaena) [illegible] [illegible] [illegible] at base of [illegible] [illegible] found at [illegible] [illegible] 1 (pollux?) [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] 2 ([illegible] [illegible] [illegible]) [illegible] [illegible] [illegible] [illegible] [illegible] at [illegible] [illegible] found [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] feeding at flowers at [illegible]. only a few [illegible] [illegible] rather [illegible] [illegible] butterflies [illegible] [illegible] [illegible].

Lepidoptera (Larvae & pupae).

Sep. 1 1 [illegible] pupa 2nd Rustica see notes of Tagus cove –
3 large striped ones. Iguana cove, poison tree – [illegible] see
notes, 1 small striped one – 1200 ft + Tagus cove 4 larva – green plain on (rather dark)
arrowhead vine on lava – see note on same, pupated about Apr – 12th –
brown [illegible] Ig cove – in (flowers) stalk of [illegible] on [illegible] shady [illegible] –

Sep – 2. 2 sphinx larvae – 5 maculata Ig cove – [illegible] Tagus cove
low alt. common

Sep – 3. [illegible] all Tagus cove – low alt. [illegible] striped larvae –
plentiful on gramete. tubercled ones on cotton active drop to ground – pale ones
[illegible]

Sep 4. faded [illegible] ! half green (twa?) larvae Ig cove – brown shots natural

Sep 5 Tubercled larvae (several shades pale green) (fa [illegible] –) 2nd rustica Tagus cove – dark
[illegible] though not quite so dark. [illegible] etc. rustica 3 –
Tagus cove – [illegible] see notes

Sep – 6 – 2 [illegible] flea (rather dark) [illegible] at settlements
[illegible] larvae of Erebus [illegible] –
see [illegible] Chatham Id. Jan – 06 – sphinx larva Ig cove –
[illegible] see note faded from [illegible] (rather light) green. Brown
[illegible] same [illegible] – June 4 – 06. [illegible]
[illegible] about the pigger
[illegible] flea [illegible]
[illegible]
[illegible]
– [illegible] stones (see [illegible]).

103 mi from Hood Id. skates seen also further off
June – 06.

Charles I.

Cls. 1. Taken from bird eaten oranges, 1100 ft level back of
" highest peak.
" 2. Larger beetles common in spring ~~at~~ near summit of
wooded mt, central Charles Id, smaller beetles in
" water among leaves & under leaves where water
" trickled over them or stones, none in H_2O. Larger
beetle very common, smaller also common.
3 Elater rather rare & very active. 1100 ft level under
stones. larger beetle also under stones 1100 or 1000 ft
level rare & quite active.
4. In small pool ~~at~~ on W end of lagoon, Cormorant bay.
Took all I saw.
5. Ants found under stones 1100 ft level & to sea level
ants fierce, colony not numerous, pseudoscorpion
rare under stones 1100 ft level & lower. single beetle
650 ft level under stone wood. only one seen & taken.
6 Lagoon. Cormorant bay. beetle on my person. culicid in
lagoon spider in web. dark hemipter on H_2O. light
hemipter in H_2O
7. Lagoon. Cormorant bay.
8. " " " Rather common in old logs. low elev.
9 " " " Under stones. high & low elev.
Isoptera high & low elev. common & rotten logs. dermestid
larvae under stale cow. crickets 1100 ft level not
common.
10 Earwig. not rare high elev. dermestid on beach. larva
1100 ft level under stone. hemipter rare under stones
1000 ft level. Spider 700 ft level

Chatles I.

Cls

11 Quite common every where on isle not near most places, under stones.

" 12 Very common at 1100 ft level, many under a single stone, rare below 700± feet.

" 13 Under stones etc. not common Black beach

" 14 Common in rotten logs. 600 ft above & below.

15. Common under stones.

16. Gray cockroaches. 700 ft level under leaves & logs. in shade. others high & low altitudes.

17 Black Beach in branch of a tree 1000 elev.

18 About 700± feet up Blk Beach Road, not common

19 Under stones 700 to 1100 ft elev.

20 Orthoptera in decayed wood. centipede (Chatham Id.)

21. Under stones high alt. 1000±

22 Dead under stones smaller scarabeid alive 800 ft elev. remains common under stones from 800± down.

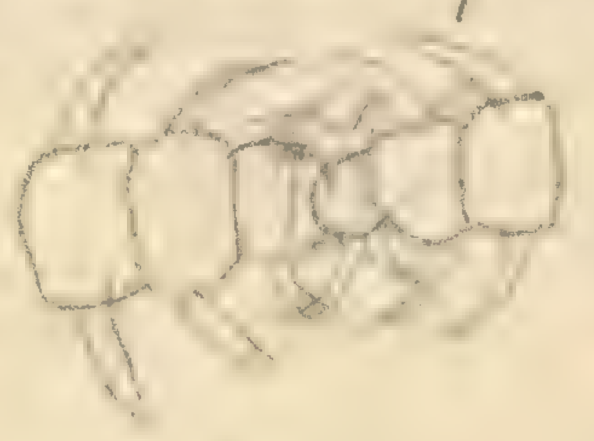
Protoshave no 3 ([illegible] sphinx).
Length at rest about 3 in
inch - purple on lava, striped

Head.

stout bar
[illegible] yellow [illegible]
[illegible] with [illegible]
dark [illegible]

Hood Id. June July

A few odonata seen about slopes, [illegible] shrubs [illegible] - A few big centipedes seen & on lifting a chunk of wood near sea saw two about four longer in copulation, as far as I could make out they were ~~them~~ end to end with the last few segments of one over the last of the other. Both very about of the same size & separated on being revealed.



No butterflies seen. only a couple of [illegible] & [illegible] taken at light.

Biggest centipedes seen were on Hbs Id (Hood)

20 [illegible] Ecuador

Chatham Id. July 06

Very poor for Lepidoptera — [illegible] & [illegible] of [illegible]. A few [illegible] at light. [illegible] one [illegible], no larvae except one [illegible] — [illegible] also 2 [illegible]. Blue dragonflies occasionally [illegible] rather common [illegible] on roadside.

~~Supplement~~ Barrington Id. July 06.

Hardly any Lepidoptera — 1 common melipotis ~~[illegible]~~ like [illegible] flowers [illegible]. [illegible] common in places. Little ones [illegible]

Indefat. Academy Bay July [illegible]

Eudamus, common on [illegible] path [illegible] up as far as I went. Edge of green zone — [illegible] ft [illegible] blue seen on [illegible] & [illegible] [illegible] also some [illegible]. [illegible] seen by Gifford 300 ft, dry [illegible].

SW Ind. July

[illegible] butterflies [illegible] [illegible] [illegible], [illegible] [illegible] [illegible] 450 ft [illegible] Ergo lycopius [illegible] & [illegible] a couple of [illegible] [illegible] Dry day [illegible] — good & wet. 350 ± — [illegible] common on plains near coast.

N Ind. July 24

[illegible] & a couple of [illegible] & a good [illegible] [illegible] [illegible] [illegible] inland — [illegible] dry

other water beetles under partly submerged log crater lake - fairly plentiful.

" 23 Elaterids 1800 ft. creeping about. Carabids up in grassy places under posts etc. lichens & by crater lake on rocks near & partly in H_2O common.

" 24 common in the crater lake. beetles sluggish

" 25 Two golden carabids just above hacienda under large stone & a little ways in good soil sluggish & rare. remain seen. minute water beetles fairly plentiful in crater lake. big carabids rare - a couple crawling about & a few under stones 1700-1900 ft. Hunter & Williams

26 Small crickets common 1000-1800 ± ft under stones in cracks etc. also [illegible] 300 ft on road. Lytisind in [illegible] brought by darky from ditch 1800 ± ft. big dragon fly nymphs 1000 ft. little crater lake Big spider common under stones & [illegible] [illegible] [illegible] near it. [illegible] common 100 ft under stone.

27 Found by light at edge of beach - tenebrionids apparently feeding quite common

~~Gov~~ Barrington Id. .. -

very dry & barren

↑

Indefat Id. July 06 Acad. lay.

A dragon fly seen (brown) on shore. etc.

SW Indefat.

Ind 17. Beetles in shelf fungi which grew on tree ~~950 ft.~~ *scalitra* - in green zone beginning at about 700 ft.

18. Moth common about camp in evening. 650 ft. - almost green zone. beetle in old compositae trunk ~~at~~ 950 ft. also pupa little beetles = shelf sh. from 17 larvae in camp also. small beetle 550 ft. Bed.

19. Cricket 750 ft under stones common. katydids. 700-950 in old wood etc. big larvae plenty fine boring in old compositae in their zone. 2 smaller larvae just under bark in compositae probably young of above. - Notes. Dry season. Big Cerambycid mostly in mature larvae. pupae - 3 beetles dug out. feed about all together on Compositae. Hard wood tree 300 to as high as we went 1000 ft. perforated with beetle holes. ~~pupa~~ Prionus sh. but only larvae. A ~~[illegible]~~ wingless sh of grasshopper I seen at 700 in eve.

~~N~~ Ind. July 24 -

Cerambycid? like beetles very active about mangroves bases. common. cerambycid = sh 9 8 Seymour at night in [illegible]. A few ~~dead~~ beetles remains seen at above.

Hunter

along above [illegible] & [illegible]

= their [illegible] only on Chatham. [illegible] tree [illegible] ladder [illegible] common [illegible] [illegible] [illegible] [illegible] Beetles seen. They don't [illegible] common on [illegible] [illegible] on [illegible]

S Seymour = 2nd July 06.

A low dry & barren gd. A piece of wounded cactus which had become rotten & soggy (in part) & hollowed furnished refuge for several sp of beetles, probably to escape drought. Tenebrionids & scorpions under fallen cacti etc. Rhynchophora breed in cacti leaf & branches, dont dig long galleries but short & pupate only a little ways in. The sticky excretion exudes from their holes. Common.

Ind.

20 | Big lepidoptera larva - boring in cactus (see note on lep.) 3 flattened dipterous larvae common in rotting cactus right in gooey stuff. 3 Rhyncophora + 1 immature rhyncophora inhabiting cactus common presence often detected by exudation. Small lep larva + cocoon - in old cactus. feeding inside on tissue. Big tenebrioni 1: under goat bend others under old cactus

" 21 | 4 Rhyncophora - in old cactus, others in damp soggy piece (see note above).

23

~~fallen~~ July 27. Aug 5
Jam. Bay Aug 5–9.

James Id. Aug 06.
James B.

Put away 6 pieces of infested wood. 2 Erythrinum branches found below big tree these trees are especially chosen by Xylocopa for nests being soft. found a couple of coleoptera parasites in other logs & put these away in chamber. larva in quiescent state. A little ways in composital belt. big prionus larvae & minute coleoptera in Scalitia. Two acacia branches infested with cerambycids. many trees thus infested 1 Croton —— Dry dormant season here. not much of anything around.

Jam. 23 ; Cerambycid larvae – big & little common in scalitia at green zone – also found in big Bursera – lower down & higher also. Scorpion common under stones at low alt. Xylocopa larvae in Erythrinum 50 ft above

" 24 Two hemiptera cocoon larva inside probably hylomating referred to in notes. wire worms taken out of rotten punky Bursera stump. 1200 ft alt.

" 25. Cricket 1200 ft in dead wood. fairly plentiful & very active. ants in deserted beetle galleries in acacia low alt.

" 26 All under loose bark of dead Erythrinum. bark dotted with little holes also soft wood underneath. are made by brown beetle in bottle. low alt 50 ft †

Lepidoptera etc

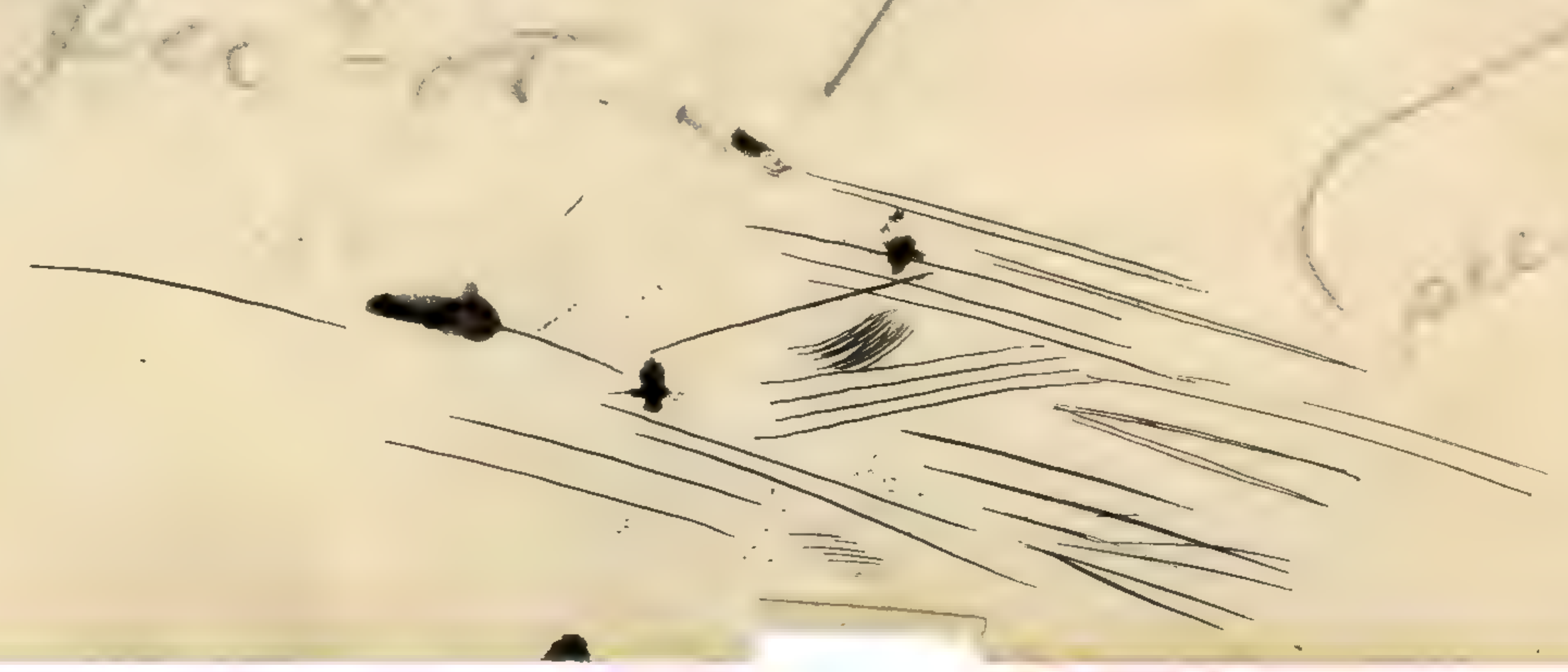
Cowley Mt. Aug 06. contd

1800 ft – on Burseras covered with lichens at this & lower altitudes I found a dozen (light white moth) or so good cocoons under loose bark & under lichens some were hatched but most good. Found a few old ones 4000 ft or so but not much food for them. Big [illegible] at 2100 ft & old [illegible] [illegible] under stones there & some in earthen cells under stones etc. A sphinx (Lug) seen in green zone. Arctiid (food for little grey sphinx) common.

[illegible] Aug 15 – approx. another cactus borer (James) spun a cocoon.

Duncan Id. Aug 06.

Two Indians seen on first [illegible]. [illegible] abundant & rather wild. [illegible] when [illegible] conceal themselves under lava stones [illegible] [illegible] [illegible] green zygaenids (attacin) a few seen. Several old cactus borer cocoons seen. 600 ft & a few good [illegible] cocoons [illegible]. Under stones [illegible] [illegible] [illegible] [illegible] almost all [illegible] [illegible] [illegible] [illegible] [illegible] hillside striped [illegible] [illegible]. Physalis dulcis leaves attacked by beetles & [illegible] by moth, croton dead stems [illegible] by small lepidoptera. A few [illegible] about. Island rather dry though summit about [illegible] [illegible] Dec – 05.



[illegible] [illegible]

Corley Dist. Aug. 6.

Cactus larvae mailed [illegible] 13 larvae

these with cactus larvae often found in [illegible]

stem [illegible] usually [illegible] silk tubing to $\frac{1}{2}$-inch

[illegible] see drawing [illegible]

[illegible] Sept [illegible]

+ [illegible]

Cactus larvae rather plentiful at Corley Dist. + mostly grown

Albemarle Id.

Cowley Mt. Aug - 9 —

Exceedingly barren on lower levels & up to at least ~~500~~ 250 ft. Lower levels pumice stone. sparse Opuntia & brush. At 250. a little more brush & dry tufts of grass. dry season. 1200 ft. got a good deal more grassy & a few vines etc. & Bursera ~~[illegible]~~ etc. Composite way down to shore. (Mallodon [illegible] & Ivy Nurse.) replaced above - 1200 ± by Scalitia. 2000 ft green zone more vines & brush etc. 1800 ft± lichens all over trees [illegible]
Put away. 2 pieces of Scalitia 1600-1800 ft. The first containing big Mallodon larvae & [illegible] the second hump backed beetles (mature & larvae fresh. A dozen cactus boring larvae (lepidoptera) in lot with cactus.

SA, 34. | 2 Scarabids from Charles Id larvae 176 oft. hatched early in Aug. Cactus lower Cowley Mt. low alt. Katydids. hiding in & under lichens green zone to low levels where they conceal in cactus. (Opuntia) They mimic their surroundings. excrement often leads to their discovery. & spiders. 1500 ± ft. Spondylid? low alt James Id. James B.

" 35 | Cowley Id. under stones etc. many dead ones. J R Slevin Coll.

" 36 | Cowley Mt. Spondylid? J R S Coll - 2100 ft ±

Cowley ... cowrel beetle or person green zone 2150 ft | Rhynchophora - fed on cactus. found low alt. burrowing in ~~edge~~ old nest close to cactus. ant & beetles low alt 200 ± ft in Cowley

28

Cowley Dist. Albemarle

$4\frac{1}{2}$ $\frac{9^3}{2} \times \frac{1}{3} - \frac{3}{2}$ $1\frac{1}{2}$

SA

" 37 – [illegible] [illegible] [illegible]) 1400 ft. pupa under Jurassic trunk. [illegible] 1400 ft. not common under stone. Blyperplora on Opuntia [illegible] apparently living together in old Scalilia trunk base. 50± [illegible].

SA 38. Beetle James B. on person [illegible].
Cacti [illegible] – July [illegible] near shore, on hill? [illegible] pupa of [illegible] on Opuntia ([illegible] [illegible]) [illegible] [illegible].

[illegible] Isl Aug. 15 – 14 – [illegible]

Collected [illegible] plant [illegible] & [illegible] near shore. Croton infested with beetles. [illegible] feed [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] – No live [illegible]. [illegible] though several dead one extracted from old [illegible] [illegible]. Croton here appear [illegible] [illegible] healthy many dead & dying plants – [illegible] [illegible]. Near shore I collected several pieces of croton that appeared infested with [illegible] [illegible] [illegible] [illegible] smaller [illegible]. [illegible] Isl [illegible] [illegible] (at all [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]) [illegible] [illegible] [illegible] [illegible]. Examined [illegible] & [illegible] [illegible] [illegible] [illegible] there. Few [illegible] [illegible] [illegible] [illegible].

Duncan Id. Aug — 06

Pum

1 1 minute beetle in croton 1 minute (cylindrical) beetle under old croton bark a few seen. Buprestid dead in croton. 2 elaters hiding in lichen. Slender larva boring in old croton. abdomen only in old holes. other elaters ~~[illegible]~~ in [illegible] [illegible] pods feeding on pulp.

11 2 Ptinidae in [illegible] twigs. 2 of ft. 1 larva of same [illegible] common [illegible] [illegible] the alt. 2 Rhyncophora in old holes in croton. seen from [illegible] other larvae — 2 [illegible] + 2 elaterid. common in croton. little red Ptinidae [illegible] but dead.

3. Tenebrionids under stones for alt. seen. Pasimachus[?] in lichen. searched up to 3 or 4 ft + found them esp. near coast.

30

SE Alternate

Aug. Sept

SA

Apparently none of [illegible] too early for
Chrysomelidae. Biggest common as big
grub nearly full size in Scutellaria
on trail. The spheres found in [illegible]
& larvae of same in big [illegible] tree. [illegible]
[illegible] beetles under bark etc. common as
in [illegible]. Carabids common under stone
[illegible] etc. [illegible] pale beach
[illegible] (taken under logs etc. in [illegible]
before) common at light. [illegible]
[illegible] beetle, common
[illegible] get anything at light

11 39. Calosoma (green) common & [illegible] very
alone [illegible] under old cattle
dung. Some in [illegible] & [illegible] pretty
dead. [illegible] beetle
[illegible]. Scarabs taken from the
[illegible] of an old carcass. Dead cow
[illegible] like [illegible]
beetle usually under [illegible] & [illegible]
[illegible]. ? Green carrion beetle
[illegible] pretty well cleaned
out, green [illegible] but not [illegible]
[illegible] dead matter

11 40 Centipedes [illegible] common under
[illegible] also very common [illegible]
[illegible] 5 [illegible]

Villamil & San Thomas (1300 ft. green zone).

Aug. Sept

Villamil the 4 Black ... seen. yellows & reds not common. Eudamus common at black lava. 3± miles up trail. A few noctuids ... at light ...

San Thomas. Yellows on roadside ... food pl. ... half grown green larvae. food pl. = legume common on road. A few seen on top also Eudamus on top & ... about 1300 ft. Blues at ... seen ... edge of crater. food plant seen. White micro common flying in day time ... Hemd below 1300 ... common on road in places. Noctuid larvae ... white ... micro & noctuids common at light. P. 5-maculata images common & medium fresh 1400± ft. feeding ... common green weed flowers (evening) ... Sphingidae ... just hatching. Images common at light ... & then folded up & remain still ... larva (mature) ... under stones back of big new tree, about to pupate. ... very ... white ... cocoons ... in small bunches ... hatching ... flying ...

For ... Schistocerca fairly plentiful ... rest ... plentiful ... at ... Pachymenes ... summit ... green place ... a few at 1500± ft. Centipedes very ... in damp places

30 m / 130

Very damp all along drizzle most of the time ... Sept.

Sept 9.06 [illegible] While getting [illegible] east of
[illegible] pupae [illegible]
[illegible] pupae of [illegible] & [illegible]
[illegible] from number
of [illegible] pupae, it is [illegible]
that pupae [illegible] all [illegible]
[illegible]
[illegible] year [illegible] + perhaps one third or less
stay the dry season (several! hatched on road up to Frisco)
prob due to [illegible] though I caught them
up ~~[illegible]~~ in Sept [illegible] however [illegible]
Oct 05 several of 5 cuspidata pupae
were taken (Charles & Chittenden) which
hatched later)

SA

41. Cerambycid larvae boring in [illegible] tree fallen big [illegible] tree [illegible]. boring [illegible] under bark. Galleries [illegible] ~~full~~ wood [illegible], [illegible] All from green [illegible] [illegible] little beetles under bark of big [illegible] tree - dead. little cylindrical reddish beetles boring - bark & wood, presence detected by small dust, common. [illegible] 1000 ft. under bark, etc.

" 42 Cerambycid E S [illegible]. at light sea level. Ptinidae 2 big [illegible] [illegible] Scolytidae. [illegible] powder below indicates presence. 1200 ft = [illegible] of beetles all under bark of [illegible] tree.

" 43. A few fungus beetles on shelf fungus 1100 ft. on fence rail. 2 little carabids in evening, running about on dead mud soil in field near here. water beetles see notes. 1 [illegible] little beetle under damp log. 1200 ft.

" 44 Staphylinidae 1200 ft. [illegible] Carabid larvae 1200 ft. [illegible] reddish Carabid 1200 ft in shallow [illegible] under stone. 2 Ptinidae ~~[illegible]~~ larger one [illegible] 1200 ft. [illegible] under bark of big [illegible] tree 1100 ft.

" 45 Water beetles. common (see notes) in the stream common [illegible] green algae. [illegible] shallows. [illegible] affected by tide

SA
46

Scarabaeid [illegible] in the manure of [illegible]
of cattle 1200 ft. see no. 39. [illegible]
[illegible] 1200–1000 ft. [illegible]
[illegible], [illegible] 1200 ft [illegible]

red staphylinid in [illegible] 39–46
[illegible] 1000 ft.

Tow D-d. Sept 06

little shiny [illegible] ~~[illegible]~~
[illegible] unfortunately the bottle
containing my days collecting was broken
[illegible] the new minute bottle was lost.
a little staphylinid was very common
in rotting [illegible]
[illegible] decomposed, [illegible] small rather
thick [illegible] (exactly
3 exceedingly minute [illegible])
were taken. [illegible] light trees
[illegible] with the bottle broken. [illegible]
[illegible] bottle [illegible]
[illegible] a little [illegible]

Tow. 1

Ground [illegible]
[illegible]

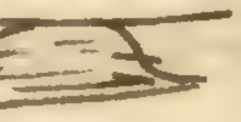
[illegible]
ground beetle [illegible].

Hood Id. May June -06.

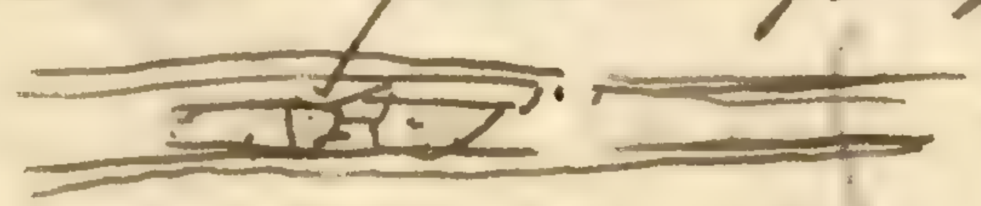
Dry but fair collecting—

Hood 7 Parasitic on Diomedea irrorata (albatross

" 8. 2 large scutelleids under stretched sealskin a little ways in sand. skin a few days old. larvae in vicinity of skin beetles common a few inches under coral sand. several revealed at a hand. scoop.

" 9. Gardner Id on Hood— spiders fairly plentiful under stones (own [illegible] egg sack— 
beetles fairly common under stones near shore. rather scanty. E side a few green Calosoma. elytra seen.

" 10. Near albatross rookery. largest larva - in croton on thorny legume. larva of #11. ~~[illegible]~~ ground beetles under sticks etc ~~[illegible]~~ fly and leach rhynchophora plentiful some under sticks & fibers with the larvae in bottle. (long straight one doubtful) common in various succulent shrub common on shore.

" 11 Found occasionally in gardner thorny legume. 1 doz imago taken from one boring. always open when inhabited with adults  presence betrayed by dust under dead limbs limbs usually about 1/1 thick. + hole usually wide enough for one. then

" 12. Larva - same as 11. about small beetles common in bunches. 200 ft. long under bark ground beetles + weevil rather scarce. under stones 200 I ft. cricket same place. (tapeworm? in dove entrails.

36

Chatham Id. July 06.

Quite dry. hills brown, most ponds dried up. 1800± ft a fine perpetual crater lake ¼ mile across & very deep. Some agrionid larvae taken & several brown & red libellulids seen. ~~ts~~ water beetles common. Big brown chafer. apparently common in season come out of round holes. [circle] vertical. many dead ones seen. & in burnt districts dead ones seen. common on rolling grassy places high alt. rare below hacienda 900± ft. a ~~couple~~ 3 of chafer larvae taken early at about 500 ft. Lower levels collecting greatly inferior to early collecting many trees leafless. Centipedes common crossing road. 500± ft. Schistocerca rather rare. small grasshoppers taken at light on beach. Matazarna (hard wood tree) telegraph poles infested by cerambycids 2 sp brown. (see note) only two living ones seen a few larvae. & many borings & often blocked by dead body of cerambycid. pull off dead bark. biggest cerambycid 2 alive several dead under same bark ~~also~~ larvae bore commonly here in poison tree common by roadside. poison tree Hippomane.

Cha 20 | Pretty common under stones low alt.

" 21: | Ordinata low alt on road. Katydids chirp during night. below sugar mill chirp almost continuous like cicada. common.

" 22 | Larvae & pupae. under moss etc on stone surrounded by ... 420 ... cell. common. Crater lake 1800± ft | 2 ... larvae 1800± ft under stones ... in a sort of ... 1800± ft. common.

holes not ... close ...
... hill

Chatham Id. Sept 6th.

, Schistocerca seen M

Did no collecting except of some of beetle infested timber. Very dry here but a few plants budding. Yellows & a few [illegible] & [illegible] fed, a few reds & quite a few blues seen.

Tower Id.

Schistocerca fairly common; Big crickets & little [illegible] under cactus leaves etc. Cactus [illegible] affording shelter for insects by reason of the [illegible] fallen leaves etc. A [illegible] seen [illegible] (some green & some grey) [illegible] (seen) [illegible] style between cactus leaves etc.

Bindloe. — [illegible] under [illegible]

Solpugida (spiders) 2 scorpions [illegible] centipedes. Schistocerca [illegible] common [illegible] by Beck. Green attera [illegible] seen [illegible] Good. otherwise old. [illegible] one large [illegible] in bag.

2-17

Sept 06.

Abingdon Id.

Schistocerca not plentiful barren places but one taken at 900± ft. Sphingidae little young seen here & there, adults rare & young pretty well up. Lycaenidae rather rare, some seen at heliotrope at pale green zone & begining of green zone. A couple of red butterflies seen by Beck & Hunter. Way up green zone just below fern belt micros are found & ole pyralid rearing & active. Pupa found under some fern roots. 1800 ft. & moth emerged Oct 1± noctuid - Cactus moths, young larvae seen there inhabit thinner leaves & grown larvae in trunks of small plants & thick leaves here & there. pupated in sept. — — Cowley moth (cactus emerged pears in box) sept 25th. emerged during dark & early morning but scales come off plenty & moth fairly active. Split end of cocoon - can't well notice it. At beach mosquitos? midges? plentiful a micro & some small geometrids coming at light. feeding probably on mixed beach plant common on all beaches. — Prosopsis - micros from dry cam... see former notes emerged end of sept & Oct 1–7±. Bg = altera grand ... rather sparse on Abingdon ... Scalesia flowers etc. A yellow noctuid seen at low alt. aroused during day It flew far & can not be taken

~~[illegible]~~

Tower contd

A. [illegible] in bursera ~~[illegible]~~

Tow. 2 — 4 Big beetles & 4 short [illegible] in rotting [illegible] cactus also infested with [illegible] larvae. Big beetles rare & bright in damp [illegible] smaller very common in [illegible] beetle reddish beetles under bursera bark & long [illegible] & in wood brown ones common under bark also pieces of [illegible] of cactus [illegible] & green palosanta(?)

Bindloe — Sept 6 06.

Bi 1 — Dry & barren 2d / Tenebrionids very scarce under old bursera [illegible] etc. Blatellidae(?) common under bursera bark (especially) & often in branches [illegible] touching each other. Larva [illegible] (1 found) in stem (base) of [illegible] very common [illegible] Tiger(?) & [illegible] Crickets common under bark. [illegible] (mostly [illegible]) very common & bright [illegible] of these larva in decaying cactus.

[illegible] of green palosanta(?).

Abingdon Sept 06.

~~[illegible]~~ A rather open country with much cactus & a good green zone in upper regions. Scorpions & centipedes seen (small elongate & big) & on shore & on sand [illegible] common under logs etc also have burrows. 2 little [illegible] ~~[illegible]~~ rove beetle, [illegible] under bark in rotten wood.

Ab. " 1 — Hemiptera green zone. little [illegible]? just below fern belt (on top) & under some old bark of a tree [illegible] just, 1700 ft. very damp & green zone. larva 1700 ft in rotten castela limb—

" 2 — Spider 700± ft. elating rather rare. hiding under stones on cacti ~~[illegible]~~ All other ~~beetles~~ & larvae infesting rotten cacti. not so common [illegible] on tomer staph, same as last [illegible] on tomer, low dry zone 100± ft. ~~[illegible]~~

3 — Commonest beetles, under stones around roots of cacti etc, penetrate well into green zone a few of large [illegible] seen on leaves. Commonest perhaps at about 500 ft— below green zone.

" 4 — ~~Staph~~ Strongylium — see notes, common — pseudoscorpion under bark. Spiders? nocturnal at light on beach. common 2 cactus borers, midges at light ~~[illegible]~~ very common 2 species of ~~[illegible]~~ Blattidae common on [illegible] things lots of [illegible] dust at [illegible] evidently just emerging — low alt.

Barrington Id. Oct. 05.

Bar

" 1 Light-coloured ants rather common in dead wood. branches. Dark ones rarer, under stones

" 2 Ticks on land iguanas. small beetle on my hand, wing covers under tons.

" 3 Four light beetles found dead in seal skull. Other beetles all under one stone.

" 4 Not common, under stones.

" 5 Under stones, not common.

" 6 Scorpions, common under stones, centipedes rather rare

" 7

" 8

Barrington Id

Much like Hood Id in aspect. Large grasshoppers not common, found on lava streams destitute of vegetation. Small grasshoppers rare. Ant lions in larval stage seen.

W

Br. Brattle id. (near Albemarle) Oct. 30 05

1 Under stones.

1 Under stones

Brattle a small barren crescent shaped id. Big grasshoppers present here. Did not go ashore.

M

Indefatigable id.

Coleoptera rather rare. Lagoon furnished ~~two~~ sp. found in the half fresh water. they were found in water 1 inch deep. & they were under stones well imbedded in the mud.
Big Brown scarabeid found by Adams at green belt where centipedes were common. Scorpions & pseudoscorpions in sand dunes in front of lagoon, under objects. plants etc. & also in sand. Ant lion pits plentiful. In lagoon Odonata common. Also Hemiptera (Corex) plentiful in H_2O. mosquitos in lagoon. 1 sp. One talamid seen near small ditch in lagoon area.

Charles Id. May 15-06 –

Good time for coleoptera. green calosoma gone – (seen Palmer & King) dead specimens seen; no brown scarabids only old remains & a couple of their larvae taken a little ways underground – under stones near summit. Plenty of beetles under stones etc. a minute convex blk. beetle 2 spec. found in rotting bean pod on tree near spring. No Hydrophilidae seen as 1st time. Cockroaches exceedingly common on summit under manure (old) etc. & at other levels.

Cls 23. Under stones etc. Common on summit under manure also at pass under stones etc.

" 24 Coleoptera larva. 2. larger ones. summit under manure Earwigs very common at pass & summit under stones two ♀♀ with broods (several young in little few in brood. 5 ± brood under & about rocks in little depression; large beetle rather rare. under stones moss & leaves at spring on trees ~~[illegible]~~ — active. Water beetles common at ~~spring~~ under wet moss leaves etc. little brown beetles. staphs & 1 tiny convex beetle in old peeled bean pods at spring larvae? of little convex beetle in bean pod too.

" 25 Remains of chafer common at 800± to summit under stones etc. Bug not very common at pass under stones elaters active & common esp at summit under & in old manure (& under stones. Ants, some winged at pass & summit common under natural few in colony.

Cls cont'd

26. | Large beetle under stone leaves etc. 1000+ ft. coccinellid on lea side of summit which was bald except for two sp. of Heliotrope + another weed or so. coccinellids on Heliotrope leaves. also one under stone (1100 ft [illegible]). chrysomelids in fair nos on small heliotrope & a few on larger.

Visited place again May 23-06. getting dryer all the time. Around old camp at beach landing where there are remnants of old hides + bones. dermestid eaten around stones etc. Under these stones were the larger blk beetles some newly hatched (brown) + smaller beetles. no live dermests but one found. + blk spiders making webs under stones seem to feed mainly on beetles. many wing covers of large rough tumble bug under stones + spiders' webs under stones. Wood borers dead + in pieces in thorny trees no adults alive seen. [illegible] of [illegible] cerambycid found dead in thorny branch. also [illegible] (brown) dead at foot of the well punctured bump trees at spring trees infested probably with this cerambycid. a few larvae (cerambycid) were seen + many old holes (borings). little flea-beetles some on summit also on heliotrope at shore. + few seen at St Thomas SA at 1300 ft

Cls 27. May-23-29- little beetle - elytra + buckshot larva - in thorny tree.
Scarabaeids at shore - past season under stones; many elytra - larva same locality also elaters + other beetles larva on heliotrope at shore - Cerambycid dead under bean tree. dascyllid-like beetles in tree crotches under leaves etc near trunk

28 high + low alts larvae at beach brown beetles - fresh newly hatched ones found just under soil sometimes.

Cls 29 - pupa of Epilachna - at spring - chrysomelids - see notes above - cricket low alts - common beetle at shore - floating wing of beetle - in thorny tree.

Charles Id.

May. 30 - June 4th - Brown scarabids larva full grown & half grown 1 pupa found. & several fresh beetles. under stones & a few inches under soil among roots etc. On weather rim of broken crater 1650 ft S up side. On summit under old manure beetle elaterids common also tenebrionids. Inside & on sides of crater. castella bushes have beards of lichens on their trunks limbs etc in this is found the large grey katydid with short wings & also hemipteras.

Cls.

29 | Esp hidden in lichen growing on castella high alt. also in wood. common.

30. | Centipedes 600 ft. Slevin coll. Spider like insects (3) under stones & digging holes oblique on trail & otherwhere. dug one out. holes several inches long & deep. much soil at entrance to burrow & often blocked by it. insect nocturnal Hemipterid common on weather side of big mt crater. in castella lichens. pupa & larvae of brown scarabid on weather side of crater under stones at roots etc. & in ground a ways good soil there -

" 31 | All on summit of big mt. elaterids common under old manure. also larvae & under stones Green beetle. 900 ft on at gaw-lond. Dasyllid like beetle under stone high alt Slevin & myself coll -

32. Big ants common under stones on summit & weather side of crater also under manure - cocoons of same. Colonies rather small, making galleries under stones no big queens seen 2 ichneumon flies. apparently living with them. live together in little groups among them. pupae of ants -

26

Cls contd

32 3 curved beetle larvae under stone + in soil 1900 ft. alto. long larvae under stones etc. Small ants. queens soldiers + workers in big colony under rock + in gallery. pupae of same ants sting + bite desperately. soldiers observed carrying pupae to safety. top of the grant 1760 ft.

Cls 33 Summit of mount 1760 under manure (old) stones etc very common.

00000

South Albemarle Mar-06.
Villa Mil etc.

SA
" 8 2 Larvae & 1 pupa (Coleoptera) common in poisonous tomato tree. under bark of rotten stumps on roadside & in twigs of same. Sphinx larva on road. Small coleoptera larvae. under rotten turtle shell. up on sandy beach. Minute convex brown beetle under rotten tortoise little convex blk beetle 1 sp. on person. 2 other larger beetles under turtle. Largest ~~bs~~ sp. of weevils under a dry rotten log. near beach in company with small elongate weevils gregarious middle sized sp. – 3rd sp. in succulent beach shrub. (not oak like) in old limbs also a few of largest weevils.

" 9 Pale cerambycid like beetles under logs. near beach on sand, beetles very active & fly a little ways when disturbed. Often conceal themselves in moss under logs & in their chinks. Elaterids under stones etc. Water beetles in small spring 1 $\frac{1}{2}$ miles up trail

" 10 Quite common 2 miles up road under dead leaves etc & in shade of poisonous trees found under a shady grove of such. (blue powdered)

" 11 Under stones logs leaves etc.

" 12 Blygnidae under logs etc by long sand beach. also craved on one. when resting near shore ~~B~~ under trees. coleoptera pupa a few inches in the sand under a log. Scavenger beetles common under dead turtles & cactus.

" 13. Big larva & next size – (1) in poisonous tree twig Blygnidae & green ~~sweet~~ beetle see above (12). Small beetles

S.A.

larvae & pupae infesting mangrove ~~seeds~~ pods & sometimes young tendrils. A great proportion of pods infested but some grow nevertheless. Often pod falls on shore & at high tide beetles etc. are killed.

" 14 Dermestids same as above. pale beetles also under turtles & burying when uncovered big scarabaeids also in same locality & usually in depression or slightly buried

" 15 Staphylidae on board. pale beetles in same locality as above. little beetles & hard cerambycids on Poison tomato tree, cerambycids lie closely appressed to twig & cling tenaciously when tackled found in a small grove - 200 yds from shore & mimic bark fairly well

16 10 ± miles below villa Mil water beetles rather scarce in mangrove etc. swamp at high tide level. behind a bank of sand & stone. Hemiptera common on a sh of sol nacae. Xylocopa in Halisens (dead) other beetles under stone etc. Mangrove. see - 13 -

Iguana Cove.

Beetles rather rare, too luxuriant veg. handsome - croton cerambycid in cobweb. Scistocerca copulating. fairly common also fair sized young. Hemiptera, mantis found.

Albemarle Id.

Iguana Cove - Mar - 06.

SA

17. Centipede ♀ found under rock, damp soil under poison tree. Eggs scattered under her on earth

" 18. Katydids in dense folige of castella near cove - they apparently live here & eat the leaves. bug found sucking juices of granular sphinx larva on Ayalea pl. Green bugs do likewise to smaller sphinx larva - hold - larva - on beak. Granular larva commonly infested & on (Ayalea?)

" 19. Spider found all over island on vertical webs - elated dead. Lepontylid under a small fern. Scarabeid in fertile soil under stone at cove other beetles under stones & loose earth leaves etc near cove - all below 100 ft. elev.

Tagus cove. Mar Apr.

Mt 4000 ft high not very good for coleoptera. A rather green zone at top & a few hundred feet below. gave some flower beetles, coccinellid etc.

" SA20 Bupestids in small cañon at head of cove. They frequent slender leafed croton & rest on the trunks of them they are active about 6 observed. They turn round trunk & run up a ways when you approach just as an attidae (spider) When you go too near they drop to ground or fly away. Taken on a hot morning. Fungus beetles. Fungus on a tree limb - rank

SA

2f Rhyncophora . often in copulation. common on plants. high + low alts. larva under stone. Coccinelid on summit on a leaf. only one obtained. Elaterids under leaves etc mould 1500 ft. on ground. other little beetles under loose leaves etc. Flower beetles. 3500 4000 feet ± mostly on flowers. of compositae having yellow disk + white ray flowers. Staphylidae 1500 feet under leaves etc.

SA 22. Carabids under leaves etc. common tenebrionids also at lower levels under stones etc. Grey powdered little tenebrionids 1000 ft.

" 23. Calosomas rather plentiful. sea level + 1500 feet at least. Big larva. 1500 feet in compositae Eggs ~~[illegible]~~ 1500 ft. Mantis low + high.

Bank's Bay. Apr 10-16-06.

A rough pebbly beach + sandy (coarse) a couple of miles (dry zone) to base of mt. Went up to 2300 ft - up mt = half way. saw but little in this green zone. commencing at 700 ± feet. In scalesia. (smaller compositae remains of longicorn burrows.

Bank's Bay. contd. Apr-10-17th

A little convex scarabeid (no. ( ) common running about the coarse rough sand above the high water line. Found in the evening. They run a ways & then stop for a moment & then resume their perambulations. Fast cerambycid(?) found also running & flying about sand beach very common. Attracted by our big camp fire. Apr 12th. In the evening I walked about small coarse sand beach interrupted at the water's edge & elsewhere by pebbles. It grew dark & I carried light (scarabeids of Apr 10th were taken &) (It was low tide) & about the low water mark where the sand was damp I ran across a tiger beetle (cicindelid) very swift which I caught. A little farther along I put down my light & about a dozen more were attracted by its light nor would they leave it until all were taken with some difficulty. Several were seen in copulation. They would fly from a foot or two to the light & climb up the wires etc. In two or three other places I ran across smaller groups of tiger beetles. I got about 25 altogether. They appear therefore to go about in small bunches & are nocturnal. 3 miles inland green calosoma fairly plentiful & 1 (cicindelid?) taken about my blankets in early morn. Tiny blk convex beetles on person at sunset. Went up mt. up to 2300 ft. where it is green like on James. Green calosoma (1) seen at 2000 ft.

52

Little chrysomelids common on croton feeding at blossoms. some seen in copula. Near shore little grey flea beetle like Tagus cone. & 2. 300 ft ... seen on croton.

SA Bank's Bay. (only place seen ... new alone)

24. Larva in loose soil ½ mile inland, chrysomelids on croton (see notes). Cerambycid at cactus flower (see notes. minute blk beetles on person. see notes)

25. Eudamus pupa on ground. 3 miles in cocoon on branch - 3 miles in others on beach ~~etc.~~ (see notes).

26. Rhyncophora. new ... on croton. fairly common cerambycid at beach. Cleridae 3 miles in (see notes). ground beetles 3 miles in. Cerambycid larva ~~at~~ in a legume. Eudamus 3 miles in —

27. Marlborough. N. shore. only live on seen under some dead ferns over a little soil — a barren place remaining biggest Cerambycid (mallodon) ... seen in compo... (small ...). green calosoma ... seen.

28. Larvae - 2 forms mature almost all under few ⅓ grown on Asclepiadae. Bank's bay. calosomas pretty plentiful in greener spots. 2~~8~~ Marlborough.

Old ... Hut.

SA Old boring of biggest (aberrant) Cerambycid found on an Algerina tree which grow plentifully on shore line about here.

28 Cockroaches very abundant esp under old manure & under in soil. pieces of fungi infested by beetles saw only 2 showing this fungi & growing on ... root of poison tree in shade a few hundred ft from beach

SA Cont'd Old Colos Settlement 9 m W of Villa ... Apr. 24-26-

see no 29 for beetles.

" 29 | Curved larva long in skin halimus, few seen. long white larva under old manure thick one with strong thoracic legs under bark of poison tree. Otiorhyncus on shrub. elater under stone single brown beetle under bark of old Algerina tree on beach & amid a colony of ants. red & about same length possibly disturbed from black isolated from ants. Staphylidae under old manure (ox ew) under shade of poison tree, not common. little slender more or less bluish beetle on fungi (no 28). tiny convex pale brown beetles under bark of algerina tree in middle of huge colony extending several feet round trunk under bark & in old cavity and? holes. 1 little ant in bottle, with pale abdomen beetles common in old sawdust & encircled by ant nests beetles a few together & single not disturbed by ants.

" 30 | Very shiny short elytra little beetles under rather old manure & in it in a few cases. biggest scarabaeids under manure & in ground in inch ± under manure. larva of same ... still lower down, several found & adults under old entrails of bull killed 1½ mo ago. larva apparently about mature. entrails correspond to manure heaps as they were full of grass etc. Multitude of Scarabaeids very common under rather old manure & in a few cases in recent manure. also in manure rarely in fresh. & a little very ... ... under manure.

SA contd Tenebrionids under stones & old manure & a couple of the large
30 Elaterids. [illegible] of old [illegible] branch of [illegible] tree
in debris

31. Spiders fairly common. [illegible] Tenebrionids under stones leaves etc. old manure etc. Dermestes larvae about hide & bones of 1½ mo bull very few imagos remain of staphylinidae seen. blue beetles [illegible] active but don't fly much common about bones under hide etc. of aforesaid animal.

32. Chrysomelids on shrubs. flea beetles (mordellids) found on succulent shore shrub. vine like & rather [illegible] [illegible] ning Tenebrionids under old manure. two dascyllids? one antennaed one, between a fungus. other on croton leaf.

Villa Mil Apr. May-06.

Getting late for Coleoptera. plenty of mature Schistocerca & the little bit of grasshopper; evidence of ~~late~~ early season for beetles. seen from no of dead specimens under bark & in holes of an old cut off & limbed poison trees.

33. Katydid [illegible] in wood high alt. big hemip on bush. high alt. Cerambycids some dead, under bark of poisonous tree & some at base of them trees dead & well bored. two [illegible] beetles in thorny shrub ~~[illegible]~~ exit to holes open shrub well perforated. ground beetles all about [illegible], [illegible] cockroach "Elsid

Look up Millamine March

= [illegible] (?)

[illegible]

[illegible]

Cape [illegible]. [illegible] country [illegible]

arch.

[illegible] feeding at [illegible]

[illegible] [illegible] yellow flowers. they fly

[illegible]

Splendid [illegible] [illegible] — a dark.

[illegible] butterflies [illegible]

Calocala [illegible]

[illegible]

Mar 06

Cape [illegible] – [illegible] a composite with yellow flowers & [illegible] [illegible] a pretty [illegible] [illegible] lava [= dark [illegible]] was [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] surface of ground – [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] No 100

[illegible]

Iguana cove –

[illegible] zone & dry [illegible] [illegible] [illegible] [illegible] – [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] also [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] also [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] – [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] also [illegible] blk [illegible] [illegible] [illegible] [illegible] a [illegible], [illegible] [illegible] [illegible] also red [illegible] [illegible] [illegible] [illegible] [illegible]. Enormous [illegible] [illegible]. [illegible] [illegible] larvae [illegible] [illegible] [illegible] [illegible] [illegible] gr[illegible] blk [illegible] [larva] [illegible] [illegible] [illegible] [illegible] [illegible] – [illegible] [illegible] [illegible] [illegible] 2 [illegible] [illegible] [illegible] [illegible] pupated, dug out 1 pupa also 1 [illegible] of [illegible] blk [illegible] [illegible] [illegible] of rock [illegible] [illegible] [illegible] [illegible] larva – common on green [illegible] [illegible] [illegible] [illegible] – [illegible] larvae. some small others in last stage [illegible] like plant [illegible] similar [moth? larvae] larvae [illegible] [illegible] [illegible] Mar 20, 06 [illegible] [illegible] in last stage also [illegible] [illegible] disappear [illegible] & on [illegible]. On poison tree [illegible] [illegible] [illegible] [illegible] plant larvae common [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

C = [illegible]

Bawks Bay

[illegible] spread, [illegible] Lycaena [illegible] fresh, common [illegible] low alts. All common [illegible] [illegible] [illegible] went 2300 ft. too late for [illegible] Lycaena. a few found in [illegible] [illegible] [illegible] [illegible] flats [illegible] gray [illegible] [illegible] [illegible] rather [illegible] few [illegible] the [illegible] little gray [illegible] [illegible] + [illegible] [illegible] 5 [illegible] [illegible] [illegible] + also [illegible] [illegible] [illegible] [illegible] But few [illegible] [illegible] left + [illegible] [illegible] [illegible] [illegible] [illegible] common [illegible] [illegible] [illegible] fairly so — [illegible] [illegible] [illegible]

N side. low alt. dry, lava-brush. Lycaena fairly common, a few yellows [illegible] [illegible] common + [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] fairly common [illegible] [illegible] also small [illegible] common [illegible] [illegible] [illegible] [illegible].

Old [illegible] Settlement — Apr. 24–26 —

Yellow butterflies scarcer than last time + rather old. Red butterflies quite common, + half of [illegible] [illegible] fresh — Lycaenas common but rather old. Little [illegible] [illegible] ([illegible]) quite common [illegible] [illegible] [illegible] about beach + fresh — they fly about [illegible] beach [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] about [illegible] [illegible] [illegible] about [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] but a few inches on the sand [illegible] [illegible] [illegible] [illegible] [illegible]. [illegible] [illegible] ([illegible]) [illegible] [illegible] but the [illegible] [illegible] common.

D U U

Notes on Sphinges

Rustica 3 (darkest). Larvae of these were pupated soon after capture; pupated at end of Mar. 27 + & they emerged Apr. 15 ± the more 27 are still emerging. Pale rustica 1 or [illegible] pupated a little later about Apr 10 & emerged —, 28-29 +

Rustica 2 - mostly full grown at our arrival Mar 22 & dug out a few pupae a little later — others pupated several weeks later & emerged Apr. 12 th — & to now Apr 27 the larvae mostly green & some yellowish & a few [illegible] purple — [illegible] pupae still unhatched — Rustica 3 - Apr 25 [illegible] R 2 - Apr 27 1 [illegible] - Apr. ~~30~~ 29 - 6 PM + 1 R 1 - 8 Apr 29 — after 4 PM - 1 R 2 [illegible] - Apr - ~~31~~ 28 - R 1 - 7 [illegible] [illegible] (Villa [illegible]) [illegible] Apr 30 - 1 [illegible] May [illegible]

[illegible] feeding [illegible] at yellow [illegible] flowers [illegible] [illegible] [illegible] [illegible] [illegible] a little [illegible]

Villa [illegible] (one [illegible] at flower in afternoon). Large [illegible] apple tree [illegible] on leaf [illegible] bright [illegible] 4 PM [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] of 5 [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] yellow [illegible] [illegible] [illegible] [illegible] - [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]? [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

Dj [illegible]

[illegible] pupae [illegible] 5 maculata [illegible]

Tagus Cove - Mar - Apr - 06.

Dry + hilly here even to summit 4000 ft. Euphorbiaceae common everywhere, on which P lineata larva feeds + when we got here March 22 - it was rather late for adult larva - the yellow flowered shrub, with synthetic-ous flower. P Rustica[?] the larva. graminaceous, [illegible] very common + mostly full grown. obtained some [illegible] of same by digging at roots of these shrubs. A few 5 maculata larva found well grown + one 4th stage or so. These are at lowest [illegible]. though [illegible] larva found not high on other plants = slender leafed croton + compositae with small narrow leaves + minimum like flowers. + another shrub like [illegible] only [illegible] sticky [illegible]. Found up to 3000 ± feet; here + below 1500 - feet another sphinx larva seen, evidently late for these as they are all well grown 16 skins + their food plants were [illegible] the slender needle plant, croton are well eaten up. On the [illegible] 1000 feet a small sphinx larva found resembling [illegible] [illegible] green [illegible] form of [illegible] cove. At 1500 feet [illegible] + a few others of [illegible] very common + also at sea level. Yellow butterfly all the way to top but more low down + h resting in dull weather on cotton [illegible]

A [illegible] [illegible] [illegible] of June 2–6 – [illegible]
+ 1 [illegible] 2 – [illegible] July 7 – [illegible]
[illegible]

Cost cut

+ yellow flower [illegible]. Red butterfly quite common [illegible] 1500 feet [illegible] [illegible] appear to be [illegible] [illegible] plant (adult) + [illegible] [illegible] [illegible] much. Sycamore + [illegible] common to top. [illegible] [illegible] [illegible] [illegible]. A [illegible] common [illegible] [illegible] [illegible] [illegible] + also [illegible] [illegible] fresh. [illegible] [illegible] 1 P. Hunter seen high up (1500 feet) [illegible] [illegible] eggs on an [illegible] (ground [illegible]). [illegible] [illegible] [illegible] [illegible] not seen at [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible], [illegible] [illegible] Pale grey [illegible] [illegible] common at 1500 feet + also at sea level [illegible] [illegible] 4 5 [illegible] + 1 pale rustica [illegible] + about 24 [illegible] taken at [illegible] [illegible] a few at dusk, some between 11.25 + 1.30 AM [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] many [illegible] 5 / 6 A.M. [illegible] [illegible] [illegible] [illegible] easy to catch. [illegible] [illegible] [illegible] [illegible] forms as in [illegible] [illegible] [illegible] [illegible] [illegible] + the other green-[illegible] [illegible]. Ctenucha observed around top of Marlborough

Banks Bay. [illegible]

Yellow butterflies [illegible] [illegible] [illegible] [illegible] + only [illegible] [illegible] [illegible] one observed [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] at the [illegible] [illegible] the [illegible] [illegible] [illegible]. Red butterflies [illegible] [illegible] [illegible] [illegible] Eudamus common a [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

= Sapphs Cove. Feb. 06.

Silver grey metallic spotted (cerambycidae (also on Hood Jervis etc.) in tree leaves & seed & walnut leaves.
commonly feeding on croton juice found also boring in ~~Brusch~~
of spiny sea shore shrub & cotton gave evidence of a borer proba-
bly the same. Cerambycid = Jan 21 borings found
in Bruschea. Cha 17. = beetle larva prob. meloidae
I kept them (2) several days in loose saw dust & fed them
Xylocopa larva which they ate readily they remain in
a curved position I inserted them in a cell (each)
of Xylocopa within which was a larva. Feb-19-06.

Wreck Bay Feb. 06.

Big green carabid everywhere at lower altitudes
feeding on live larvae (sphinx & noctuids) which
they nipped up climbed herbs & shrubs in search
of larvae. Seen during day esp. late afternoons by roadside
several may be seen eating 1 larva. Bug also sucks
larvae.

Chatham Isl. (Wreck Bay - Feb 06.

Cha 19. Gyrinids beyond hacienda in little pond, scarce
Rhyncophora abundant all over. piece of beetle
under stone 1100 ft. 2 longicorns at light
on beach also 2 light-colored scarabeids:

82

Charles Isl. Feb 06 Cormorant bay.

Evidence of cerambycidae Leguminous thorny brushes-

Cormorant b.: 1-

White grub + pupae in Xylocopa nest. in dead brasha trunk. beetles under stones just fresh. rhynchophora on Nerium.

Blk Beach.

Green carabids coming out. up to about 400 ft fairly common Big brown carabids seen dead plentifully, none alive. Up at spring Hydrophilidae not in evidence though other bird few. Much evidence of beetles in thorny legumes but mostly old. Schistocerca common at rather high up, in copulation.

Albemarle Isl. Mar 06.

Villa Mil

Schistocerca + other sps common, former in copula. Did not go any elevation + not more than 2 miles in. Xylocopa sp. hatching out of cells. many pupae but few larvae. Odonata + (1 agrion seen) common. Meloidae in Xylocopa in pseudo pupa. + a few in small larval stage pseudo-pupa in a larval cell of their own, taken a few miles below Villa Mil in Hibiscus.

No croton seen at Villa Mil but the large handsome silvery cerambycid feeding on croton taken on a mangrove. Turtles killed by natives along long sandy beach infested by dermestes + other carabidae

Hood Id. Jan 06 –

A rather small dark coloured [brown] Pelagonic seen at 200 ft. White moth from cocoons under [illegible] removed after not mind fly away quite a way, more [illegible] seen in small [illegible]. A big [illegible] flew about ship at dark, Xylocopa flew aloud & examined masts etc to make nest. On James – 06 – they were looking for suitable nesting places & two pairs of them were found in a piece of wood. ♂♂ flying & poising around blossom fly with a high buzz. ~~Jan~~ 06. Academy Bay. also ~~nesting~~ looking for nesting places. On Hood – Feb 06. found a piece of croton with a nest & ♀ therein – she had ~~made~~ cleaned out old cells & made some new ones – 12 cells in all, i.e. a few new ones & rest old – partitions removed.

Chatham Id. Feb 06.

Basso Pt. Butterfly rather [illegible]

Caterpillar common, a ~~couple of~~ sphinx seen. [illegible] on lava, Sappho Cove.

[illegible] abundant. Several kinds of [illegible] seen flying about ship & shore but dont feed cant catch them. Plain [illegible] [illegible] moths [illegible], found one on tree trunk mimicking bark

Wreck Bay Feb 06.

[illegible] butterflies fresh & plentiful [illegible] [illegible] skippers rather old yellow butterflies [illegible] common

Up near plantation gate – caught some sphinx feeding on [illegible] [illegible]. [illegible] 5 [illegible] rather old & commonest – come out before sunset in shady places, yellow [illegible] [illegible] not

2

& rather old
so common, smaller grey [illegible] & reddish [illegible]
fresh [illegible] + [illegible]. Sphinx larvae everywhere
lower down up to 300 feet ± on Portulaca (purslane
etc. + Euphorbias) a caterpillar ~~like~~ D. lineata = D. [illegible] was
fairly common [illegible] pupated Feb. 25 ± 06 in depres-
sion [illegible] leaf drawn over it with a few strands
Up road 300 - [illegible] feet on Agave = [illegible] like plant
+ big caterpillar [illegible] 1 - mellospila
a rough [illegible] sphinx larva was found in small
[illegible] in [illegible] stages at right. Low down at sea level almost,
on solanaceae, a sphinx larva common [illegible] +
[illegible] however found on [illegible] on road
side [illegible] = [illegible] thick on roadside & [illegible] stemmed
[illegible] On [illegible] a [illegible]
[illegible] larva [illegible] to [illegible]
lying flat on underside of Acacia stem
caterpillar [illegible] ① larva [illegible] to
pupate [illegible] Many [illegible] day flyers
at low alt. also many at light by gate 600 ± feet
full of [illegible] of [illegible]
[illegible] common low down. Mar. 3 [illegible]
[illegible] D [illegible]
[illegible]
maculata [illegible] in oval spaces [illegible] & mellospila [illegible]
in depression on ground [illegible] died = Bristica ②
[illegible] Mar 06.
[illegible]
[illegible]
[illegible]

Chatham Isl. Jan-06

Cha- 5. Quite common ~~under~~ Wreck bay stones by wayside near beach. found on different days under same stones, a pair in copula. two taken running up road. 500 ft alt. all these 1/4 mile from beach.

6. Cramgaid. 350 alt. under bark of trees. centipeds under. stones, common

7. Odonata about. 1000 ft taken in pool. by road much aquatic plants etc. Hemiptera on summit common. spiders & crickets under stones.

8. Beetles common in rain & more durable pools from shore to summit. summit pools more durable. aquatic plants etc.

9. A couple of water beetles in copulation beetles under stones some ~~[illegible]~~ large rhyncophora. on croton etc in copulation. go up to summit. beetles low alt. Spiders on webs. 1000 alt near H_2O.

10. Big Scarabids a couple in copulation. 10 ft alt or so under stone & old rotten gunnysack some elytra under dung. Some under gunnysack. dug out from ground 1 or two inches.

11 Very common. in every puddle.

12. Larva. brownish under stone low alt 2 blk. on vine 250 ft alt up road. common vine

13 Biggest beetle dead in telegraph pole of leguminous plant. gyrinidae 2000 ± feet in pools, not in big numbers. dytiscidae. common in pools. high & low, odonata 1000 ft. date, & ~~carabid~~ under stones. carabid common on ~~[illegible]~~ summit [illegible]

Cha. 14 Under stones low alt. spider in rel. over water 1000 ft odonata + bemp. 1000 ft & more.

Bassa pt. Feb-06.

The large green calosoma was observed by Gifford to climb stems of shrubs a couple of feet or so. seen during day running about lava - probably looking for caterpillars which were numerous on shrubs.

" 15. Calosoma running about ground. lava fairly common on croton tiny beetle on beach in some drying sea weed - Buprestid on Gifford's hat at beach others under stones & boards. Flying ants at night on shrubs

Sapphocare. Feb-06.

Strophnus very common.

" 16 Elaterids under a leaf of croton resting. Chrysomelids sometimes feeding on croton flowers (in bloom) but more often congregated on food plt. a trifoliate legume. creeping or ascending, with a yellow flower. beetles active leaping off plant & flying (sea level or about 20 feet up

" 17 Small beetle on my person. 50 ± feet. pupa of lepidoptera in green spiny bush of seashore in ~~burrow of~~ the old sawdust burrow of beetle. Spiders numerous on webs. geometrid larvae common on cotton, noctuid on croton. Xylocopa larvae from nest in old Bunchra. limb white parasite in one cell - other parasites seen devouring larvae.

" 18 Horse fly a pest when in bathing. beetles readily attracted by light taken mostly at night. during day under planks etc very active fly often when disturbed. habitat sandy places near beach.

" 19 Weevils exceedingly common. usually on croton & copulating. drop off leaf when approached others under planks near shore

Hood Id. Jan Feb. 06.

Hood 1 On the very summit of isle, under stones. larger beetle under stones, usually sluggish but run agilely if disturbed as to smaller ones. smaller ones lead ~~[illegible]~~ powdered. Slightly ~~[illegible]~~ greener at summit. Rhynchophora in stems of green succulent bush growing also on shores where beetle is found also. Large beetle, a couple in copulation

" 2. SE pt of Id. (albatross place) under flat stones near shore. beetles always more plentiful and soil as there are better accommodations for them i.e. flat rocks & soil.

" 3 Elater caught as it lit. 75± ft alt. Cerambycid larvae in ~~stem~~ crotch near shore. Humpbacked beetles taken from twigs ~~from~~ Bursera which had fallen on ground. Found ~~[illegible]~~ a few larvae but no pupae. Wood dust beneath infested twigs. Several beetles in same twig & often together. Beetles probably ~~[illegible]~~ therein in day & emerge at night? as galleries had openings. Found also in branches of the thorny legume with the yellowish green flower. apparently common

Gardner Id. ~~Jan~~ Feb. 06. = Hood.

Hood 4. Beetles & larvae in thorny legume. Rhynchophora in old deserted gallery.

" 5. All under stones. E side mostly & near shore

6. thorney legume 40± ft elev.

Indefat. Acad bay. Jan-06.

wild ellater - 500± alt

Ind 17. Dugout of fallen tree compositae. at beginning of heavy green zone. 450± feet. Beetles beginning to emerge; many pupae + larvae. heard beetle fly during night, lower down

18 Dermestid + larva on our ship sailing from Indefat. other beetle taken by King as it flew on him who was under poisonous tree with tomato-like fruit + glossy green leaves. right near shore

Ind 19. Dugout of ~~[illegible]~~ Lignum vitae. 350 alt. little conv + beetle 1 sp. + elat like sh (2). also other small spems. flying in morning ~~[illegible]~~ close to ground 250 alt.

Chatham Id. Jan. 06.

Wet season. beetles numerous. rain water pools full of water beetles.

James Isd. contd.

Jan.

17. A few very minute beetles in piece of wood. (tree compositae) on summit. 2750 ft. Elaterid larva under old bark in damp rotten wood & under bed of fern roots. from 2150 to summit. Lepidoptera larva. some found by Ochoner under bed of fern roots. on compositae summit. Beetle larvae & pupae in dead wood. all in compositae (tree)

Jan 18. > Nos 1 & 2. up to summit. crickets plentiful under stones mostly immature. Chirp at night. rather weakly but like the calif one.

carabid under roots of tree, summit

Jan 19. Cerambyx. on summit in tree compositae twig (rotten) two elongate larva under stones. ~~20~~ 2150 ft. Rhyncophora larvae & pupae in damp rotten wood & in old borings in same. 2150 ft. Staphylinidae from 2000 ft. to summit. tree hopper near summit (Hunter coll) small convex beetles under bark. also brown one. & other two small but longer ones, on my person 2250 ft ±.

" 20 Hemiptera. 2150 to summit under fern roots on compositae. where beetles were found one elater found in rotten wood. Rhyncophora = 19.

Jan 21. Dug out of dead & fallen tree compositae. mostly in larval stage. (Jan. 2, 06) but some in pupal & some beetles. Pupae in chambers. Larvae make more or less horizontal galleries 1800 – 1500 ft.

♂ from Indefat. Jan. 06.

James Id. contd.

Jan.

22. Larger beetles in green zone. small ones 1200 ft ± in wood. (compositae).

Note on Jan. 21 – From tree composite (dead) 1800–2000 ft ± dug out 5 pupae 3 ♀♀ + 2 ♂♂ enclosed in cells made by closing + rounding out larval passage; + two [illegible] larvae. One larva turned to ♂ pupa sometime Jan. 6 – 06 – + a ♀ pupa emerged same day (morning 9–10). Freshly emerged beetle when wings are long is quite soft, with long protruding body. Light yellowish darker on back + flaps over [illegible]. Wing covers creamy white head + abdomen + legs dark brown. [illegible] lighter on edges + head also near occiput. Wings extended beyond wing covers. Beetle lays flat + quiet, [illegible] exuded [illegible] of liquid (water [illegible]). Jan – 10 another ♀ emerged ~~somewhat~~ around noon.

Hood Id. Jan Feb 06.

+ Gardner.

Beetles slightly more common perhaps, but island quite dry + apparently too early for coleoptera. Grasshoppers. 2 sp. larger sp. common up to summit. smaller sp. rarer, all over.

More coleoptera on Gardner than on Hood Id. taken from the E + S sides esp. Two cerambycids? near albatross place S.E. Hood near sand shore under timber, very agile + fly easily + do so when disturbed. Pinned up.

(James Cay)

James Id. Dec-03

Jan "
1 A common sp. at high altitudes. Larvae pupae & imagines found in the rotting trunks of the large tree-compositae. imagines plentiful but ~~pupa~~ still rather early for species. Larva bore passages in wood & pupate therein in a chamber. a few larva & pupa attacked by a winged & a wingless hymenoptera. A few pairs of imagines taken in same borings together but not in copulation.

Jan. 2 Found in same wood as preceding but much less common. 3 stages observed. larva pupa & imago. Possibly in more rotten wood than former

Jan 3. Found in same wood. 1400 ft elev ±. larva pupa & imago & rare.

Jan 4. Found in dead branch of spiny legume (oxygenous?) with spherical yellow flowers near shore

" 5 " " " " "
larvae? rather rare.

" 6 " " " "

holes in branches indicated exit of imago.? pupae a few & one or two larvae seen. beetle fairly plentiful probably; reared one from pupa which hatched next day. Infested trees & burro trails In infested branches bark peeled off & split & animals (burros) broke & tore them, thus indicating presence of beetles. &c.

James Id Cont'd

Jan 7. Boring in the trunk of Erythrina (dead) a pair of pupa found. frogs break rotten wood to get at grub. 500 ft ~~[illegible]~~ Schistocerca. near coast.

Jan 8. Under stones, (common). 50± elev.

" 9. Ants. common under stones. 2000± elev. taken from two nests. white grub. larva of ichneumon. (wingless in bottle (blk with pointed abdomen feeding on larva + pupa of No 1 + 2. Staphilidae? under bark of tree compositae. 2000 elev ± little round beetles. Do in tree compositae. under bark + in wood. also single brown one. mordellids not rare on erigeron? 2000 ft. also single little round beetle (brownish with spots).

" 10 pupae of No 1. piece of shelf fungus ak on tree. 2000 ft elev with beetles. only one infested one seen Several taken next time Jan-06

11 Crescent shaped larva out of Xylocopa nest in wood, coleoptera larva + pupae of No 3 in tree compositae, eating under bark. also wire worms (2) blk beetles under stones. 2000 ft ± elev ichneumons in boring of No 1 or 2. Lepidoptera larva (3) say under bark of erythrina. &

12 taken from (erigeron?) low alt. old branches

13 Dermestid + curculid on board ~~[illegible]~~ buprestid? larva in erigeron smallest beetles. active under bark of erythrina 500 ft ± larger brown ones in borings of same. 3d in size with protruding wings under stone 300 ft alt.

14 Very common in erigeron. making much sawdust. larva + pupae. also in erigeron.

15. Shelf fungus (#10) several infested ones seen. growing on prostrate tree compositae high alt. 2000 ±.

16 Lower stems. under fern roots on tree trunks. 2150 ft. lower. in holes in rotten wood 1200 ± elev.

Duncan Id.

Dun-1 At camp (800±) fed. elater at fireside, rhyncophora
.. under bark of dead croton bush
" 2 Dark ant (4 casts) common under stones branches etc.
" & light form small colony in dead branches on trees. Beetles under stones
3. Beetles very common on summit (1270) under moss fern roots etc. hemiptera rather rare lead specimens commoner. scorpions fairly common.
4. Pupae at base of (7 in) croton bush, to a bush larvae in croton. Cerambycid & buprestid (dead) in croton. other beetle on my person.

Jervis Id.

Jer. 1. Apparently a little early for this species, a few larvae a pupa or two & the imago found in the dead branches of croton - They are not found at base of bush as in following
Jer-2. Taken by splitting up croton stems where fine sawdust showed on the ground directly beneath. showed evidence of coleoptera rather early for these also. Larvae & pupae more plentiful than adult & almost always found at base of main stem & even at begining of roots. Holes showed where the imago had emerged. Usually only one grown larva to a bush. Fairly common

72

James. Id.

~~1st time~~

Rather early for opuna. Scistocerca rare, up to summit & late for them. Fine beetle collecting especially in old wood. Schistocerca more common on new lava fields on S Side. Xylocopa seen to summit. Mr Hunter found two sp of orthoptera Katydid sp & beetle no 1, one each in stomach of a barn owl.

Indefatigable Id. (Academy bay). Nov-05.

Ind. 6 Common in rotten logs. green zone. none in pupal stage.
" 7 Katydids in rotten wood. carpenter bee. pupae in log.
" ~~7~~ on beach.
" ~~7~~ 8 Carabid under dead tortoise 300ft. two larvae in rotten wood.
" ~~8~~ green zone. 700ft. broken beetle in dying limb.
" 9 Largest beetle in bottle found in orchid. 350 ft. 2nd eagle.
(blk) common on algae under stones. small beetle. 500ft
alt. some flying some in a lemon. used by us
10 Academy bay. Nov-05. 50ft ± alt. under stones.
" 11. Under cacti. stones etc S W. S Seymour Id
" 11 " " " " " " "

" 12 N Indef. mantis 500ft elev. elater at light. 800ft. small
" 1 elater like beetle & tiny brown beetle on my person 300ft.
two others in dead twigs = oval beetle & little blk beetle.
" 13 " " " Ants under & in log. small elater in twig. other
beetle in red ant nest. red ants in bottle. all on sandy
shore. red ants have uncovered pupae.
" 14 Scorpions at light near beach, pale brown two
spotted sp. on sandy beach running rapidly & burying
in sand when disturbed = S Seymour
" 15 S Seymour under stones & cacti. diptera pupae in
rotten cactus.
" 16: Daphne Id. Scorpions plentiful under stones etc.
in crater. also larger beetle. smaller beetle in
large numbers under stones on sides. (S side inside)
of island also under cacti & apparently always
near cacti

—6

Daphne. Id.

Coleoptera 2 sp. very abundant. Schistocerca fairly common on sides

Duncan. Id. Dec-05.

Too early for most things. No 3. (beetles) hiding in bunches of one or two. under fern roots & soil on rocky summit. rather swift. No 4. pupae. rather common only on dead croton produces slate coloured cerambycid with golden spots. Found the remains of a small metallic buprestid in croton brush near shore. Schistocerca common especially higher up in valley & on summit, copulating & flying singly against wind.

Jervis Id. Dec-05.

I lost my bottle of beetles overboard, small. grooved blk beetle under stones. Larger one found on all islands, here also. Schistocerca rare & hard to capture.

Daphne Id.

A cocoon resembling that of Mr Lupini of US (cal) fairly common on trees bearing lichens but pupa hatched No 6. cocoons common but old. [illegible]

Duncan Id. Dec-05.

Sphinx taken at light a sphinx seen & two empty protoparce pupa also numerous pupa of noctuids (empty.) No 6 - here & there during day. a few dead & two live pupa of same. Lupini like cocoon (empty) common & excrement of larva on lichens which are very abundant. Lycaena rare = no(1) remains of no 3. seen on summit. A few micros. too early for Lepidoptera.

Jervis Id.

Hatched no 6. pupae common; one noctuid seen which could not be caught. different from any others seen.

James Id.

Dec Jan 05-06

At high alt. a few skippers seen. Yellow butterfly extends from shore to nearly top, brown butterfly also. Lycaena a few higher up. Welcome found a pupa under fern roots[2750] & one under a stone 1000. [Hatched Jan 7 = No 10] No. 4 caticala sp. not rare hiding in chunks of fresh lava on S Side. Observed Jan. 3 as we were coming down lava fields. [illegible] (2 [illegible]) [illegible] with slow flight at 12.30 PM Jan 10 - [illegible]

[illegible]

Wrapping – ga. 16

Chatham Id: The specimen [illegible] found by Mr [illegible] up about 400 ft elev. at foot of [illegible] (tree) I put in a bottle with some leaves of the tree, intended to describe it but on looking in bottle (without [illegible]) next, I found that it had formed a [illegible] cocoon by [illegible] the leaves together with some strands of silk. The larva could not be seen well & [illegible] & so the following description must be rather poor. Length about 1 inch. Head [illegible] Body [illegible] in thickness with [illegible] of dark colour below which [illegible] pale [illegible] green [illegible] band. Between 2 & 3 [illegible] [illegible] [illegible] [illegible] pale [illegible] [illegible] [illegible] of body [illegible] Between [illegible] bands pale green with [illegible] [illegible] [illegible] about [illegible] Nov. [illegible]

[illegible]

Ab. 6. Ants under cork[?] leaf [illegible] in large numbers [illegible] 20 pieces in separate batches [illegible] in [illegible] size of beetles [illegible] at light!

Ab 5. mostly at light on sand beach very common larvae scooped out of sand

Oct 3 - 5 - 06 - 17th nata[?] [illegible] seen.

80

Heinman ~~a~~ what looked like a new pale brown [illegible] [illegible] flew on board + I put it in Ken bottle. very small

A [illegible]? flew aboard today ~~Oct~~ 13. 06.

= Lat 15°. 56' N.
Long 110°. 12' W

Culpepper — 3 [illegible] I
Green Calypsona

[illegible]
[illegible] [illegible] [illegible] [illegible]

Culpepper — 1 [illegible]

Wenman Id.

N.N.W. plateau of Id. 200± ft. of micro & two seen. Halmenus taken under stones some in copula in a limited space.

Culpepper - a myriapod big centipedes (reddish) seen · x dermest ~~[illegible]~~ larval shells

Hydrometridae - seen when becalmed. S of Clarion scattered about. Oct 10, 9, 8, 7, 6, 5 etc. Xylocopa seen ♀ 1 sp. flew out of bird Oct 9th from wood from Chatham Big cerambycid emerged about 7th Oct. from Chatham wood ~~of~~

BN

Oct 06. [illegible]

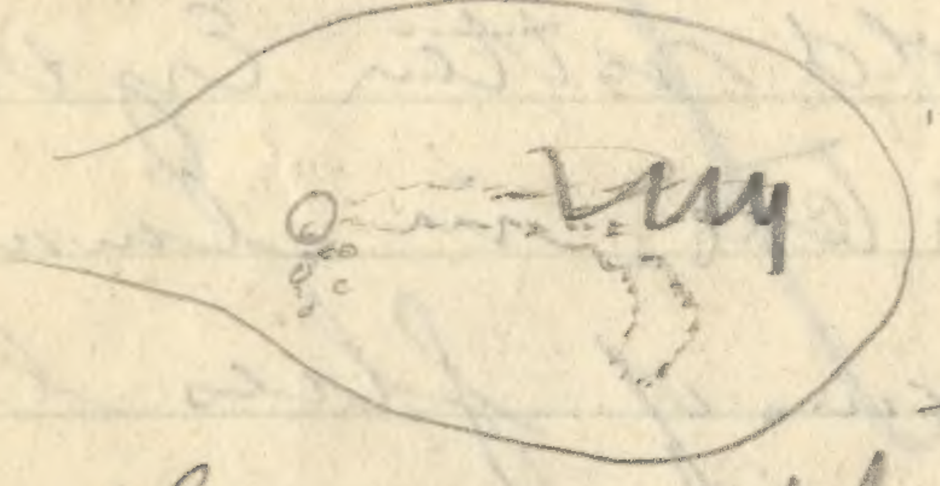
Micros from pods of Prosopis emerged Oct. 8-9 etc & a little earlier. Large dark sp. from pods & always & some smaller ones in layer box & therefore may have come from cactus leaf. But [illegible] reared ~~[illegible]~~ signs. Noctuid oct. also early but about played out now Oct 11 some of smaller species in copula. take readily to flight.

Hydrometrid? observed during calm in ~~[illegible]~~ Oct. 11-12 — Small Lomitas were seen to catch them & pursue them (not altogether sure of this.)

Lepidoptera etc contd

S Seymour. July 06

Schistocerca mature & quite common esp on big lava piles. Sphingonotus fairly so in more sandy spots etc. (~~Catocala~~ Gitocala common sp.) seen here & there. also a few micros. on lava feeding in rotting cactus. On E side of Id. exposed to strong SE. trades, two ~~Hepialus~~ cactus larvae were taken from antepenultimate branches & also lower largely of Opuntia.



Much searching only revealed two found by seeing the excrement at head of the open burrows. round smaller opening than inside gallery. gallery in middle of leaf. lined neatly with fine silk. a few inches long. larvae at bottom. put one in alcohol & the larger one in a branch of cactus —

NE James. July aug 6th

~~Hepialus like~~ Cactus borer larvae fairly plentiful in Opuntia near shore. full grown also 1/3 grown several old cocoons & 1 cocoon with larva inside between branches & on bark etc like Merolonche lupini & protective. Dry & unproductive on this side. a few Eudamus yellows reds & blues seen by [illegible] & a noctuid or two, nothing at light near shore. Schistocerca up 700 ft. & rather sparse. ~~Halmus~~ Sphingonota rare & near shore. Am ~~seeing~~ rearing cactus borers alone in cactus. cocoon taken shore. cut open & pupa put in alcohol. Cactus leaves & ~~stem~~ branches in big box.

82

1 larva cactus ^(of Sullivan bay) lover - spun cocoon Aug 7 I in box bet leaf + wood.

James bay Aug 06.

Lycaenidae common + rather old - flying about their food plant a vine (growing esp on lavas) low level. hatched eggs on leaves. common. Red butterflies fairly ~~plentiful~~ food plant common, yellows a few new + old seen also Eudamus; Asclepiadae (gray plant food plant) very common, Xylocopidae - ~~[illegible]~~ plentiful about acacia + high up also in holes in branches - found together (a couple of grown larvae) ^(1 nest) (1 pupa + several imagines) ^(1 nest) (+ 1 imago + plenty of eggs) ^(1 nest). In old rotten Erythrina

a sp of hymenoptera - in larval state

flies in brown cocoon - remains of flies bunched larva + in sack

together - in many places -

Cowley Mt.

Yellows rather sparse + ^(rather) old. green zone to 400 ft so so. ~~a few~~ ^(7?) seen fluttering about - legume food plant. Eudamus. 200 + ft, sparse + fair cond. have a habit of alighting ~~in shadow~~ of under or side of lava blocks etc. Lycaena. green zone + arid to 400 ±, seeds appear to be ~~laying eggs~~. looking around to outpost 2000 - 1800 ft. + a little lower, Schistocerca very plentiful in grassy district 1800 - less abundant lower - 1400 ft, + in green zone not thick - and districts lower down to sea, common in places esp ~~flying~~ seen on brush to escape strong breeze: Sphyngids common 1100 ft + probably ~~[illegible]~~ a little higher, very common from there to shore Hal... mens common + 1 in couples in green zone 900 ft - 1800 ft a few taken 200 ft a couple taken but rare below 1800 ft.

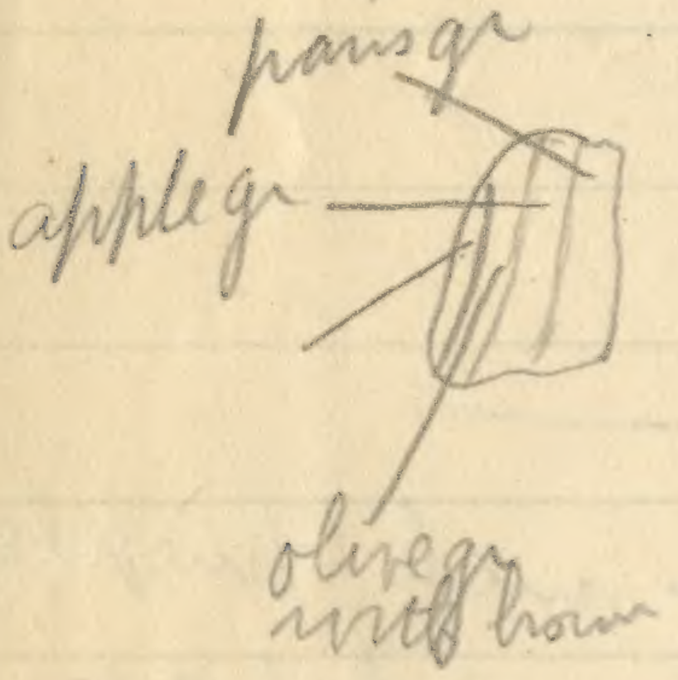
83

Colours not particularly fast.

Poison tree sphinx larva - colours, (taken from memory) somewhat emerald green - purple spot/light

Small grey sphinx - dark paris green.

Thyreus = pale paris green.



Length (at rest) 2 3/8 in

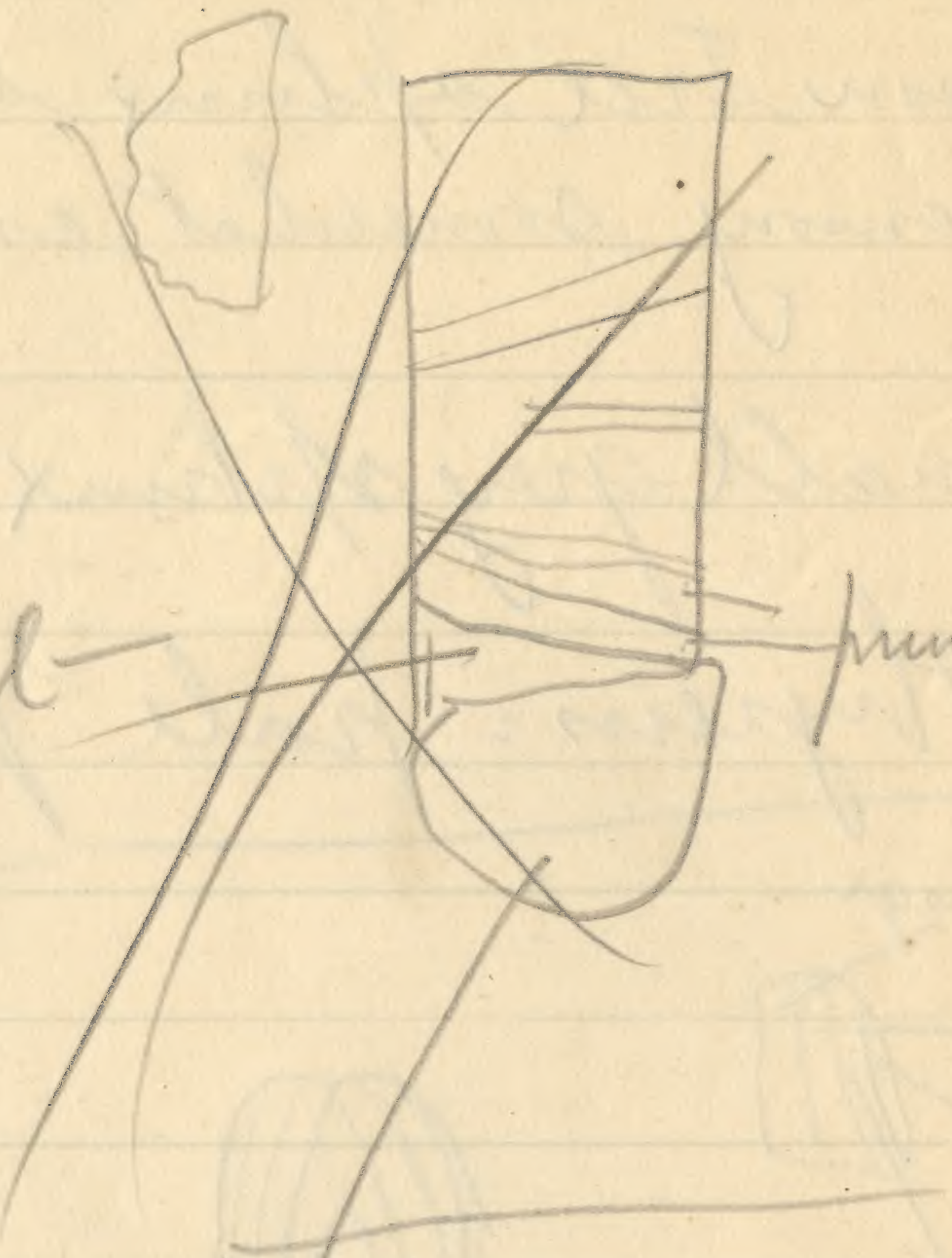
Rustica 3.

stout curved horn.

Much purple on larva. oblique stripes

84

Ital.
Orlland?
fairly plentiful summit green hill?
few - 1500 ft
Ginley? in cod 2100 ft
200 ft few 1500 ft
rare below 1000



dark green with purple
= interlateral fold
alone.
+ up to creamy
oblique stripe
stigma purple blk
with 2 long(?) brown
spots 0

brown ochre yellow
with little dark
insects

creamy ~~yellow~~.
subdorsal traces of purple
stripe not oblique

flat on proleg dark olive
surrounded by tinge of hairs
green